United Nations

FCCC/TP/2015/1

Framework Convention on Climate Change

Distr.: General
21 April 2015

English only

Opportunities for cost savings and efficiencies in joint implementation, learning from experience with the clean development mechanism while recognizing the respective mandates of the two mechanisms

Technical paper

Summary

This document provides a technical analysis by the secretariat, in accordance with the mandate in decision 5/CMP.10, on the opportunities for cost savings and efficiencies for joint implementation, learning from the experiences of the clean development mechanism, while recognizing the respective mandates of the two mechanisms. The document compares the functions of the two crediting mechanisms to identify potential areas of synergy and associated cost savings for joint implementation, and examines approaches to increase the efficiency of joint implementation, particularly with regard to ensuring its environmental efficiency, drawing on recent developments in the clean development mechanism.

GE.15-08068 (E)

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I. Introduction

A. Mandate

1. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP), by decision 9/CMP.1, adopted the guidelines for the implementation of Article 6 of the Kyoto Protocol (the joint implementation (JI) guidelines). By the same decision, the CMP decided that the first review of the guidelines should be carried out no later than one year after the end of the first commitment period, based on recommendations by the Joint Implementation Supervisory Committee (JISC) and the Subsidiary Body for Implementation (SBI) drawing on technical advice of the Subsidiary Body for Scientific and Technological Advice, as needed. SBI 39 initiated the review of the JI guidelines and Parties have continued considering this matter since that time. At SBI 42, Parties will continue negotiating this matter on the basis of the draft decision text and its appendix proposed by the co-facilitators of the informal consultations as contained in the annex to document FCCC/SBI/2014/L.34.

2. At CMP 10, through its decision 5/CMP.10, Parties requested the secretariat to prepare a technical paper, by SBI 42, on the opportunities for cost savings and efficiencies for JI, learning from the experiences of the clean development mechanism (CDM), while recognizing the respective mandates of the two mechanisms.

B. Scope of the document

3. Following the mandate from CMP 10 referred to in paragraph 2 above, this document presents an analysis by the secretariat of the opportunities for cost savings and efficiencies for JI, learning from the experiences of the CDM, while recognizing the respective mandates of the two mechanisms. The document has two main parts covering:

(a) A comparison of the functions of the two crediting mechanisms of the Kyoto Protocol in order to identify potential areas of synergy and associated cost savings for joint implementation;

(b) Approaches to increase the efficiency of joint implementation, particularly with regard to increasing its environmental efficiency, drawing on recent developments in the CDM.

C. Possible action by the Subsidiary Body for Implementation

4. In accordance with decision 5/CMP.10, Parties may wish to take into consideration the analysis contained in this technical paper in their deliberations at SBI 42 under agenda sub-item 5(b), "Review of the joint implementation guidelines".

II. Comparison of the functions of the mechanisms of the Kyoto Protocol

A. Objectives and purposes of the mechanisms

5. The Kyoto Protocol established two emission reduction crediting mechanisms in order to assist Parties to meet the objective of the Kyoto Protocol and the overall objective of the Convention: JI and the CDM, in Articles 6 and 12, respectively.

6. JI was designed to provide a common basis by which Parties with quantified emission limitation and reduction targets could collaborate in the mitigation of climate change. Specifically, this approach enables Parties included in Annex I to the Convention (Annex I Parties), or legal entities authorized by them, to support activities that reduce emissions in other Annex I Parties and apply these reductions towards meeting their own targets. This allows for greater cost-effectiveness in the overall mitigation actions taken by these Parties to meet their emission targets under the Kyoto Protocol.

7. The purpose of CDM was twofold: (a) to assist Parties not included in Annex I to the Convention (non-Annex I Parties) to achieve sustainable development and thus contribute to the ultimate objective of the Convention, and (b) to assist Annex I Parties in achieving compliance with their quantified emission limitation and reduction commitments by allowing them to use credits for the emission reductions achieved in non-Annex I Parties.

8. The approach taken by both JI and the CDM was modelled on the baseline-and-crediting system. Credits, emission reduction units (ERUs) for JI and certified emissions reductions (CERs) for the CDM, are issued on the basis of the undertaking of an activity that changes the level of emission to below a counterfactual emission level in the absence of the activity (also known as a baseline level). Much of the challenge in effectively implementing a baseline-and-crediting system lies in establishing the credibility of such baselines in a manner that allows them to be accepted internationally.

9. Many types of emission reduction activities are represented across both mechanisms with a significant number of them using identical or similar methodologies for the measurement and quantification of the resultant emission reductions. This is one of the areas for which the potential for synergies between the mechanisms and associated cost savings has already been implemented and for which the possibility of greater synergy has been identified.[1]

B. Governance and processes of the mechanisms

10. Under the current guidelines, JI is divided into two 'tracks', commonly known as 'JI Track 1' and 'JI Track 2'. JI Track 1 represents the basic model as originally envisaged for JI during the preparation of the JI guidelines, whereby the host Parties assume responsibility for the approval of projects, the verification of the resulting emission reduction and removals, and the 'issuance' of ERUs by converting them from existing units held by the Parties.

11. JI Track 2 was originally conceived as a system of international oversight for projects hosted by Annex I Parties that had not yet met all the eligibility requirements for JI. It sets out a verification procedure for JI projects under the JISC. Once emission

[1] FCCC/SBI/2015/5, paragraphs 15–19.

reductions and removals are deemed final under JI Track 2, ERUs may be issued, again from existing units of the host Party, and transferred by the host Party if its assigned amount has been calculated and recorded and if it has a national registry in operation.

12. The modalities and procedures of the CDM allow for only a single 'track' that is supervised by the Executive Board of the clean development mechanism (CDM EB) and under the authority and guidance of the CMP. The CDM operates in an environment not covered by any quantified emission limitation and reduction commitment, and the issuance of CERs represents the creation of new compliance units that do not come from a host Party's emissions budget. This is a distinguishing feature of the CDM as compared to JI.

13. As can be seen from the table below, the governance of the regulatory cycle for activities under JI and the CDM follow essentially similar paths, with the exception of some aspects of the cycle for the current JI Track 1. However, the table also includes a regulatory cycle for the proposed JI single track that is drawn for the current negotiation text for the revision of the JI guidelines, which shows a convergence towards similar regulatory cycles across both mechanisms. This is possibly due to the essentially similar nature of the activities that both mechanisms attract.[2]

Comparison of project milestones across joint implementation and the clean development mechanism

Milestones	*JI Track 1*	*JI Track 2*	*JI single track (proposed)*	*CDM*
Step 1	PDD development (Project participant)	PDD development (Project participant)	PDD development (Project participant)	PDD development (Project participant)
Step 2	Approval (DFP)	Approval (DFP)	Approval (DFP)	Approval (DNA)
Step 3	Publication (UNFCCC secretariat)	Determination of PDD (AIE)	Validation (AIE)	Validation (DOE)
Step 4[a]		Determination (JISC)	Registration (JISC)	Registration (CDM EB)
Step 5[a]		Monitoring (Project participant)	Monitoring (Project participant)	Monitoring (Project participant)
Step 6[a]		Determination of ERUs (AIE)	Verification (AIE)	Verification and certification (DOE)
Step 7	ERU issuance (Party)	ERU issuance (Party)	ERU issuance (Party after endorsement by the JISC)	CER issuance (CDM EB)

Abbreviations: AIE = accredited independent entity, CDM = clean development mechanism, CDM EB = Executive Board of the clean development mechanism, CER = certified emission reductions, DFP = designated focal point, DNA = designated national authority, DOE = designated operational entity, ERUs = emission reduction units, JI = joint implementation, JISC = Joint Implementation Supervisory Committee, PDD = project design document.

[a] For these steps, Parties follow equivalent but varied processes.

14. Many of the actions being undertaken in regulatory cycles as well as the information that is being assessed are similar. It could be expected that greater convergence of the process offers the potential for synergies between the mechanisms and associated cost

[2] This can also be observed in the similar regulatory cycles that have been developed for other baseline-and-crediting systems developed domestically by Parties or for the voluntary carbon market.

savings, particularly for project participants that operate the same type of activity at different locations under both mechanisms.

15. However, it is worth clarifying that applying more lessons learned from the CDM to JI would not alter the need for the current differences in accounting for ERUs and CERs, whereby ERUs are issued by converting an existing unit of the host Party and CERs are issued through the creation of a new unit. This is because these differences are necessitated by differences in accounting for those Parties with quantitative emission limitations and those without, and are not necessitated by the specifics of JI or the CDM as mechanisms.

III. Approaches to increase the efficiency of joint implementation

A. International oversight

16. In the context of the carbon crediting mechanisms, international oversight requires a body constituted under the Convention to supervise the approval process of mitigation projects. Such a body, supervising a mechanism in an objective manner on behalf of the Parties to the Convention, can have a substantial impact on the way in which the mechanism is perceived.

17. Under JI Track 1, projects are approved and ERUs issued by the host Party without international oversight. Whereas under JI Track 2, projects are supervised by the JISC in order to ensure the environmental integrity of JI projects and ERU issuance. As an oversight body, the JISC can request a review of the determination of a JI project or of the verification of emission reductions thus adding an extra layer of international scrutiny.

18. Historically, both JI and the CDM have involved undertaking activities with significant investment, and the issuing of credits with substantial value. In this context, it is almost inevitable that host governments will, at times, be perceived as having a conflict of interest. In the light of this, concerns have been raised, primarily directed at JI Track 1, about host Parties prioritizing credit maximization at the expense of environmental integrity in the absence of international oversight.

19. The CDM has addressed this potential for a conflict of interest in host Parties by granting the CDM EB a high degree of oversight of the system. It has authority over the assessment and registration of activities as well as the requirements for measuring, reporting and verifying the resulting emission reductions. However, this greater level of environmental efficiency in establishing the emission reductions is achieved at the price of increased transaction costs for the system as a whole.

20. The need for greater international oversight for JI compared to the current level is reflected in the current draft of the revised JI guidelines[3] that outlines a single track for JI under the supervision of the JISC. Based on the experiences of the CDM, such greater international oversight is expected to yield greater environmental efficiency in establishing the emission reductions that would benefit the credibility of the system as a whole.

B. Transparency

21. In the context of carbon crediting mechanisms, transparency means the extent to which information regarding an emission reduction activity is disclosed to the public. This disclosure extends to explaining the assumptions and methodologies applied in establishing

[3] As contained in the appendix to the annex to FCCC/SBI/2014/L.34.

the emission reduction achieved by the activity clearly and in such a manner that they can be independently replicated.

22. The national processes under JI Track 1 vary in the transparency of their procedures and decision-making, and are frequently subject to calls for increased transparency. Whereas the transparency of JI Track 2 is relatively high due to the international scrutiny provided by the JISC.

23. Under the CDM, all information regarding an activity that is seeking registration must be publically available beginning with the submission of evidence of prior consideration by the CDM and including the publication of the project design document for global stakeholder consultations. The process also includes a requirement for local stakeholder consultations. Once registered, the monitoring report for an activity seeking to claim CERs must be published along with the final verification of emission reductions and all underlying data supporting such reductions. This provides the CDM with higher levels of transparency and the implementation of such a provision in JI may enhance the transparency of its decision-making.

24. This is reflected in the current draft of the revised JI guidelines which includes minimum requirements in order to facilitate the development of project cycle procedures by host Parties. These requirements ensure provisions in relation to the transparency of decision-making processes, local stakeholder consultation and rights for directly affected entities to hearings prior to decision-making, timely decisions and appeals of decisions. The adoption of such procedures may lead to greater environmental efficiency through greater credibility of the system as a whole.

C. Environmental integrity

25. The concept of environmental integrity in the context of carbon crediting mechanisms, such as JI and the CDM, pertains to ensuring the additionality of the emission reductions and safeguarding real, permanent, measurable and verifiable mitigation outcomes.

26. JI activities are undertaken within a quantified emission limitation and reduction commitment which means that, in effect, JI activities redistribute mitigation effort among Annex I Parties without impacting the overall magnitude of the mitigation undertaken. A reduction or removal of emissions in the host Party is compensated for by the transfer of the assigned amount, in the form of ERUs, to the investing Party. As a result, although the additionality of emission reductions and removals remains a core requirement of JI projects, JI is not contributing to an increase in the overall level of emissions allowed from Annex I Parties as a whole. However, a risk remains that, if a host Party were to have a significant surplus of assigned amount units, it is possible that ERUs generated by a non-additional and/or over-credited JI activity might not, in practice, represent a real mitigation outcome in the host Party, thus potentially reducing the environmental efficiency of the system as a whole.

27. The issue of environmental integrity of JI Track 2 is addressed by the requirements of paragraph 33(a–d) of the current JI guidelines.[4] These stipulate that activities are additional if emission reductions and removals are beyond that which would otherwise occur. Activities are also required to have an appropriate baseline and monitoring plan in accordance with defined criteria. Under the JI Track 1 procedure, issues such as additionality testing, and baseline and monitoring methodologies are at the discretion of the

[4] As contained in the annex to decision 9/CMP.1.

host Party, can differ substantially, leading to a wide degree of difference among Parties, and are not subject to international oversight.

28. Under the CDM, a methodological framework, comprising more than 200 baseline and monitoring methodologies and tools, has been developed though a rigorous process of international assessment and consideration by regulatory bodies and global stakeholders. This framework includes a stringent and internationally recognized additionality demonstration. The use of CDM methodologies and tools within JI will ensure consistency, comparability and robustness in applying credible baseline and monitoring methodologies, which would ensure increased environmental integrity and efficiency. In addition, the application of CDM additionality demonstration requirements will ensure that the same level of stringency is complied with across different types of activities and Parties.

29. This has been reflected in the current draft of the revised JI guidelines where it is proposed that the JISC shall set minimum technical requirements for JI activities utilizing UNFCCC-approved methodologies, such as those from the CDM, in order to ensure the additionality of the emission reductions, consistency of their measurements and quality assurance.

D. Standardization

30. Standardization in the context of offset mechanisms refers to shifting from project-by-project baseline setting and additionality demonstration towards baseline setting and additionality demonstration for a country/region/sector/group of mitigation actions. Under both JI and the CDM, the process of baseline setting and additionality demonstration has been perceived as complex and time-consuming thereby limiting participation. Standardizing project parameters in an objective manner across many activities, instead of calculating them for each activity individually, can significantly simplify their implementation, reduce transaction costs, enhance transparency, and facilitate objectivity and predictability. Standardization can be achieved through various means, including emission intensity benchmarks,[5] default values,[6] positive lists of activities that are considered automatically additional[7] and barrier tests.[8]

31. Under the CDM, it has been recognized that greater standardization represents an opportunity to improve the efficiency of the CDM and increase its uptake. Specifically, increased participation in the mechanism can be achieved by removing methodological barriers and shifting the cost of methodology development and data collection from individual participants to a centralized coordinating body.

32. Given the fact that valuable experience has been gained under the CDM with standardization approaches, it would be efficient and cost-effective to transfer the lessons learned and progress made with standardization to the JI process. In addition, the level of

[5] Where emission rates are per unit of output and are based on the current and/or future performance of a peer group of similar plants or installations.

[6] This could include, for example, grid emission factors, Intergovernmental Panel on Climate Change default values for fuel characteristics and other common values as well as conservative estimates of the emission reductions per unit for a given activity/product (e.g. a solar lamp or a compact fluorescent lamp), which can be multiplied by the number of units installed in order to calculate the total emission reductions achieved without monitoring each unit.

[7] These positive lists may be applied to activities that face high barriers to investment and/or those that have no, or few, financial benefits other than the revenues from CERs/ERUs.

[8] Where activities are considered additional if the technology used has not reached a certain level of market penetration in a particular country or region.

conservativeness applied within standardized baselines is also another way of ensuring environmental integrity which unifies, in a transparent way, the level of robustness applied across activities. It may also significantly reduce transaction costs for the participants as once a relevant standardized baseline is approved, participants no longer need to undertake the complex task of baseline development.

IV. Conclusion

33. In analysing opportunities for cost savings and efficiencies for JI, learning from the experiences of the CDM, while recognizing the respective mandates of the two mechanisms, this technical paper takes into account the context of the ongoing negotiations on the review of the JI guidelines. These negotiations have been moving towards replacing the current 'two-track' model of JI with a model already drawing strongly upon the experience gained in implementing the CDM.

34. The comparison, contained in chapter II above, of the proposed future governance and processes of JI with the approaches taken in the CDM indicates their convergence on a model which has proven its robustness, integrity and transparency, as well as its flexibility to work with a diverse range of Parties and stakeholders. Where the mechanisms would continue to differ is in the accounting of transfers of JI and CDM credits between Parties, after the regulatory cycles are complete and the credits have been issued.

35. The analysis in chapter III above indicates more specific opportunities through which JI can draw further upon the approaches used in the CDM for enhancing the governance and environmental effectiveness of the mechanism. These pertain to many aspects which the current negotiations on the review of the JI guidelines have sought to address, in particular with regard to enhanced international oversight, transparency, environmental integrity and standardization. In addition to drawing upon approaches that are already tried and tested in the CDM, there would be value in Parties and other stakeholders adopting common approaches to addressing the same issues, irrespective of the mechanism in which they arise.